



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/928,818	08/13/2001	Eric N. Mann	0325.00484	8343

21363 7590 03/27/2002

CHRISTOPHER P. MAIORANA, P.C.
24025 GREATER MACK
SUITE 200
ST. CLAIR SHORES, MI 48080

EXAMINER

COX, CASSANDRA F

ART UNIT	PAPER NUMBER
----------	--------------

2816

DATE MAILED: 03/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/928,818

Applicant(s)

MANN ET AL.

Examiner

Cassandra Cox

Art Unit

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 8-10, 13-15 and 19 is/are rejected.
- 7) ☒ Claim(s) 4, 6-7, 11-12, 16-18, 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5, 8, 10, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graham et al. (U.S. Patent No. Re. 35,797) in view of Ooishi (U.S. Patent No. 6,072,345).

In reference to claim 1, Graham discloses in Figure 7 a second circuit configured to generate one or more output signals (QFB, Q0-Q5) in response to a second reference signal (CLKIN) and one of the one or more output signals (QFB, Q0-Q5), wherein the one or more output signals have a controlled and/or substantially zero delay. Graham does not disclose how the second reference signal (CLKIN) is being generated. Ooishi discloses in Figure 8 a first circuit configured to receive a first reference signal (extCLK) and generate a second reference signal (intCLK), wherein a frequency and a phase of the second reference signal (intCLK) are (i) adjusted in response to the first reference signal (extCLK) and (ii) held when the first reference signal (extCLK) is lost (see ABSTRACT). Since, in the circuit of Graham any externally generated signal can be used to provide the second reference signal (CLKIN), it would have been obvious to one skilled in the art at the time of invention that the circuit of Ooishi could be used to generate the second reference signal (CLKIN) used in the

Art Unit: 2816

circuit of Graham, for the advantage of providing a stable second reference signal (see Ooishi column 5, lines 3-7). The same applies to claims 13 and 14.

In reference to claim 2, Ooishi discloses in Figure 8 a control circuit (321, 322, 323) configured to generate a control signal (V_p , V_n) in response to the first and second reference signals (extCLK and intCLK), wherein the control signal is held when the first reference signal is lost; and an oscillator (324) configured to generate the second reference signal (intCLK) in response to the control signals (V_p , V_n ; see column 18, lines 42-45). The same applies to claim 15.

In reference to claim 3, Graham discloses in Figure 3(a)-3(c) (which is a more detailed view of Figure 7) that the second circuit comprises: a phase locked loop (PLL) circuit (96, 97, 98, 82, 80) configured to generate a clock signal (CLK2) in response to the second reference signal (REFCLK which is seen to be equivalent to CLKIN) and one of the one or more output signals (FBCLK); and a buffer circuit (which is seen to include the remaining elements of Figures 3(a)-3(c)) configured to generate the one or more output signals (156-161, which are seen to be equivalent to signals Q0-Q5 of Figure 7) in response to the clock signal (CLK2).

In reference to claim 5, the PLL circuit (96, 97, 98, 82, 80) disclosed by Graham in Figures 3(a)-3(c) is seen to function as an analog PLL circuit.

In reference to claim 8, the oscillator (324) disclosed by Ooishi is a ring oscillator (see column 18, line 44).

In reference to claim 9, Ooishi discloses in Figure 8 that the first reference signal (extCLK) is an external timing signal. The same applies to claim 19.

In reference to claim 10, Ooishi discloses in Figure 8 that the first circuit further comprises a phase detector (321) configured to adjust a phase of the second reference signal (intCLK) in response to the first and second reference signals (extCLK and intCLK).

Allowable Subject Matter

3. Claims 4, 6-7, 11-12, 16-18, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter: Claim 4 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 3 wherein the second circuit (112) further includes a divide-by-N circuit (170) in combination with the rest of the limitations of the base claims and any intervening claims.

Claims 6 and 17-18 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 3 wherein the first circuit (110) comprises a digitally controlled reference loop circuit in combination with the rest of the limitations of the base claims and any intervening claims.

Claims 7 and 20 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 3 wherein the oscillator (130) comprises a voltage controlled crystal oscillator in combination with the rest of the limitations of the base claims and any intervening claims.

Claims 11 and 16 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 3 wherein the first circuit (110) further comprises a divide-by-N circuit (160) in combination with the rest of the limitations of the base claims and any intervening claims.

Claim 12 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 3 wherein the apparatus is implemented on a single integrated circuit chip (100).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Rapport et al. Discloses an example of a zero delay loop.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cassandra Cox whose telephone number is 703-306-5735. The examiner can normally be reached on Monday-Thursday from 7:00 AM to 4:30 PM and on alternate Fridays from 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on (703)-308-4876. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Application/Control Number: 09/928,818

Page 6

Art Unit: 2816

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

CC

CC

March 22, 2002


Kenneth B. Wells
Primary Examiner